REMARKS

It is anticipated that the present claims should be free of the previous rejections and objections. The previous objections and rejections are addressed below.

The previous formal objections are not applicable to the current claims.

Claims 235-286 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject mater which applicant regards as the invention. Particularly, the Examiner queried the meaning of "putatively" modulates or elicits T1R1-associated taste. Applicants respectfully note that this simply means that the claimed assays detect for compounds that likely, i.e., putatively modulate human taste based on their affect on T1R1 activity and this likelihood can be confirmed in a taste test e.g., as recited in dependent claims 336-338. Applicants submit that a skilled artisan would readily understand that the in vivo effect of the compound on taste should be confirmed in a human taste test.

The Office action further criticizes the meaning of "stringent hybridization" because the claims fail to recite the precise conditions for hybridization. This criticism is moot as the independent claim 287 now recites the particular hybridization conditions.

The antecedent basis criticism to prior claim 270 is now moot.

Accordingly, Applicants respectfully request that the prior 112 second rejection of claims 235-286 not be maintained against the current claims.

Claims 235-286 were also rejected under 35 USC 112 first paragraph as allegedly being non-enabled. This rejection is respectfully traversed to the extent it may be applicable to the current claims.

The Office Action indicates that the specification does not enable a skilled artisan how to detect ligands that modulate T1R1 associated taste. This rejection is respectfully traversed. The current claims are directed to assays using the T1R1 polypeptide to identify ligands that putatively modulate human taste. With respect thereto, this application clearly describes assays that would be useful in identifying ligands that modulate the activity of this human taste GPCR. Moreover, the as-filed application provides convincing evidence that the subject T1R1 is a member of a small member of taste GPCRs (which only comprise 3 members) that are involved in taste transduction and moreover teaches that the subject T1R1 is the human ortholog of a rodent gene previously identified as a taste receptor. (Hoon et al., Cell 96:541-551 (2000)). Yet additionally, this fact has been confirmed by functional data contained in subsequent applications, see e.g., US Serial No. 09/897,427 now patented, which provides functional data evidencing that the rodent and human T1R1 polypeptides are involved in detecting umami taste (savory taste, this receptor responds to ligands such as monosodium glutamate).

Also, the Office Action indicates that the claims do not enable competitive assays since no ligand is demonstrated in the application to specifically binds the T1R1 receptor polypeptide. Applicants respectfully submit that this rejection is unsustainable as it would be clear to one skilled in the art as of the effective filing date and based on the as-filed disclosure that the subject T1R1 receptor having the sequence in SEQ ID NO:17 is a human taste receptor that is involved

in human taste transduction, and most likely sweet or umami taste transduction (since the T2Rs were then known to elicit bitter taste transduction and further since the sour and salt taste modalities were strongly believed to be elicited by ion taste channel polypeptides rather than GPCRs). Therefore, based on the as-filed disclosure it would be well within the skill of the ordinary artisan to screen the T1R1 polypeptide against known and available sweet and umami ligands and thereby identify a ligand that specifically binds thereto and which therefore may be used in competitive binding assays.

Also, the claims are indicated to be non-enabled to the extent the assays embrace T1R1 fragments and polypeptides that are encoded by sequences that hybridize to the T1R1 coding sequence. This basis of the rejection should be moot. The current claims only embrace the use of T1R1 polypeptides of full length and/or T1R1 polypeptides that specifically bind the same ligands as the wild-type T1R1 polypeptide contained in SEQ ID NO:17. For the reasons set forth above, a skilled artisan would readily be able to use the subject assays and identify taste ligands that specifically bind and modulate the activity of the subject human T1R1 polypeptide. This would not rise to the level of undue experimentation given the limited number of potential taste modalities (5), the ready availability of ligands that elicit all of these taste modalities, and the likelihood that the subject T1R1 would have been involved in either sweet or umami taste transduction (since T2Rs were then known to elicit bitter taste, and since salty and sour taste were believed to involve ion channels rather than GPCRs). Indeed the role of T1R1 in human taste transduction and the usefulness of this receptor in assays such as are claimed herein has been confirmed. (See e.g., US Serial No. 09/897,427 which contains confirmatory functional

data evidencing the role of T1R1 in umami taste). Therefore, based on the foregoing, the prior enablement rejection should not be maintained against the current claims.

Prior claims 235-286 were also rejected under 35 USC 122 first paragraph as allegedly not meeting the written description requirement. The bases of the rejection are substantially the same as the enablement reject traversed above. For the same reasons Applicants respectfully submit that the teachings of this application, coupled with the high skill in the art would place a skilled artisan in possession of the claimed invention. Particularly, given the fact that T1R1 was properly identified by Applicants as being a member of a small taste receptor family for which a rodent member had previously been identified (Hoon et al (id.)) and further given the fact that there are only a very limited number of potential taste modalities that T1R1 would potentially be involved and the strong likelihood that only 2 (sweet and umami) were the most likely candidates would sufficiently place a skilled artisan in possession of functional assays and potential ligands using the subject T1R1 receptor polypeptide that would be useful in identifying compounds that bind to the T1R1 polypeptide and which modulate human taste. Therefore, Applicants submit that the prior 112 written description rejection should not be maintained against any of the current claims.

It is anticipated that the present amendments will place the case in condition for allowance.

Based on the foregoing, a Notice to that effect is respectfully solicited. Reconsideration and allowance of all claims are respectfully requested. If any issues remain after consideration of this Amendment, Examiner Brannock is respectfully requested to contact the undersigned by

telephone (202-419-2018) so that these issues can be resolved by Examiner's Amendment or a Supplemental Response.

Applicants believe that no fee is due with the filing of this Amendment. However, in the event that the calculations of the Office differ, Commissioner is hereby authorized to charge or credit any such variance or credit any overpayment to the undersigned's Deposit Account No. 50-0206.

Respectfully submitted,

HUNTON & WILLIAMS LLP

Date: **January 11, 2007** By: _____

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